USER MANUAL

Model:

CSW-VGA211, ***Automatic VGA / Audio Switcher***

For maximum results, use Comprehensive Brand Premium High Resolution cables and connectors.

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1 Introduction

Congratulations on purchasing your **CSW-VGA211** *Automatic VGA / Audio Switcher*, which is ideal for:

- Automatic computer and presentation VGA / XGA routing
- Presentation systems with wall plates

The package includes the following items:

- **CSW-VGA211** *Automatic VGA / Audio Switcher*
- Power adapter (12V DC input) and this user manual

2 Getting Started

We recommend that you:

- Unpack the equipment carefully and save the original box and packaging materials for possible future shipment
- Review the contents of this user manual

3 Overview

Your **CSW-VGA211** is a high performance 2x1 automatic switcher for VGA/SVGA/XGA/UXGA and stereo audio signals. The **CSW-VGA211** detects the presence of the active VGA-type input signal from either IN 1 (the default[1]) or IN 2—depending on how both DEFAULT SELECT switches[2] are set, as section 5.2 describes—and automatically routes it to the acceptor connected to the VGA OUT and the AUDIO OUT connectors. In addition, the **CSW-VGA211**:

- With its video bandwidth exceeding 400MHz, ensures transparent operation at the highest resolutions
- Automatically switches the stereo audio signal with the video signal (audio-follow-video) when switching the active input to the output
- Includes ID BIT control[3]
- Includes a pair of DEFAULT SELECT switches on the underside for selecting the default VGA master source signal

1 That is, both DEFAULT SELECT switches on the underside are factory preset to IN 1

2 Both DEFAULT SELECT switches MUST be set to the identical IN #

3 Sometimes notebook computers refuse to output a VGA signal to an external VGA monitor. By setting the ID BIT to ON, the notebook will output to an external VGA monitor

- Includes a looping XGA input with a loop termination switch
- Comes with contact closure remote control for forced operation
- Uses active switching and has very selective sync detection and reconstruction circuitry

To achieve the best performance:

- Connect only good quality connection cables, thus avoiding interference, deterioration in signal quality due to poor matching, and elevated noise-levels (often associated with low quality cables)
- Avoid interference from neighboring electrical appliances and position your machine away from moisture, excessive sunlight and dust

Caution – No operator-serviceable parts inside unit.

Warning – Use only the input power wall adapter that is provided with this unit.

Warning – Disconnect power and unplug unit from wall before installing or removing device or servicing unit.

4 Your CSW-VGA211 Automatic VGA / Audio Switcher

Figure 1 and Table 1 define the topside of the **CSW-VGA211** *Automatic VGA / Audio Switcher*:

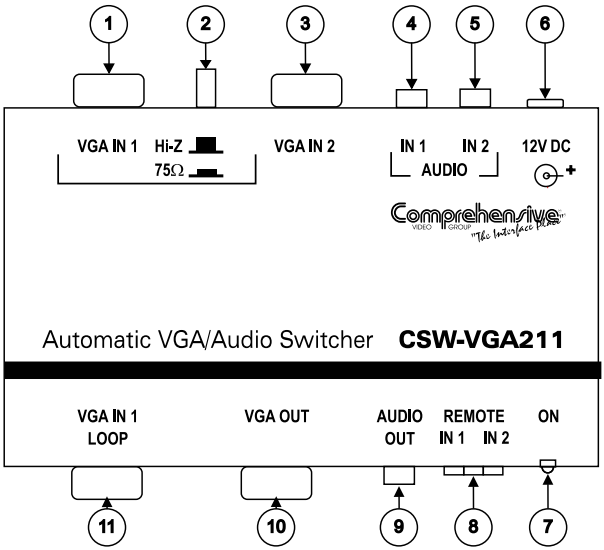


Figure 1: CSW-VGA211 Automatic VGA / Audio Switcher Topside

Table 1: CSW-VGA211 Automatic VGA / Audio Switcher Features

#	Feature	Function
1	*VGA IN 1* HD15F Connector	Connects to the video source 1
2	*Hi-Z / 75Ω* Loop Termination Switch	Release to select Hi-Z; push in to terminate VGA IN 1 with 75Ω
3	*VGA IN 2* HD15F Connector	Connects to the video source 2
4	*AUDIO IN 1* mini plug Connector	Connects to audio source 1
5	*AUDIO IN 2* mini plug Connector	Connects to audio source 2
6	*12V DC*	+12V DC connector for powering the unit
7	*ON* LED	Illuminates when receiving power
8	*REMOTE IN 1* and *IN 2* Terminal Block Connectors	Connect to a dry contact switch
9	*AUDIO OUT* mini plug Connector	Connects to the audio acceptor
10	*VGA OUT* HD15F Connector	Connects to the video acceptor
11	*VGA IN 1 LOOP* HD15F Connector	Connects to an additional monitor

Figure 2 and Table 2 define the underside of the **CSW-VGA211**:

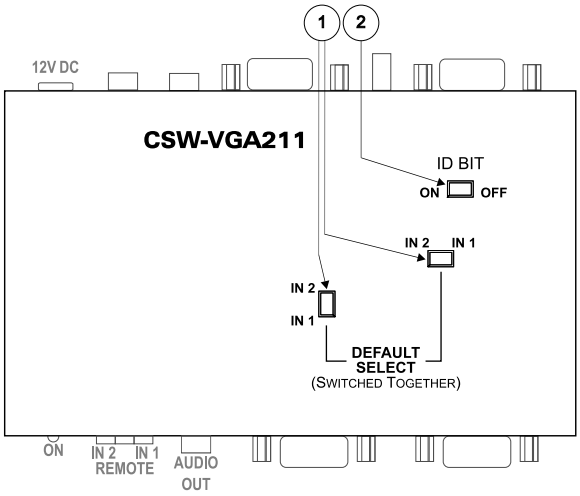


Figure 2: CSW-VGA211 Automatic VGA / Audio Switcher Underside

Table 2: CSW-VGA211 Automatic VGA / Audio Switcher Underside Features

#	Feature	Function
1	Pair of *DEFAULT SELECT* Switches	Set both switches to IN 1 to select input signal 1, as default; or to IN 2, to select input signal 2 as default (see section 5.2)
2	*ID BIT* Switch	Slide to the left to set to ON[1]; to the right to set to OFF

1 Enabling the notebook to output a VGA signal to an external VGA monitor

5 Using the CSW-VGA211 Automatic VGA / Audio Switcher

This section describes:

- Connecting the **CSW-VGA211** (see section 5.1)
- Selecting the default master source signal (see section 5.2)
- Connecting the REMOTE connector (see section 5.3)

5.1 Connecting the CSW-VGA211 Automatic VGA / Audio Switcher

To connect your **CSW-VGA211**, connect the 2 VGA INPUTS, with VGA INPUT IN 1 set as the active master source signal, as the example in Figure 3 illustrates:

1. Connect a VGA/Audio source (for example, a PC (Master Source)) to the VGA IN 1 HD15F connector and to the AUDIO IN 1 mini plug connector. Both underside DEFAULT SELECT switches should be set to IN 1 (the factory preset default), as section 5.2 describes.
2. Connect a second VGA/Audio source (for example, another PC) to the VGA IN 2 HD15F connector and to the AUDIO IN 2 mini plug connector.
3. Connect the VGA OUT HD15F connector and the AUDIO OUT mini plug connector to the acceptor (for example, a video monitor with speakers).
4. Connect (optional) an additional monitor to the VGA IN 1 LOOP HD15F connector and release the loop termination switch to select Hi-Z. Select 75Ω on the loop termination switch if the VGA IN 1 LOOP is not connected.
5. Connect the 12V DC power adapter to the power socket and connect the adapter to the mains electricity.

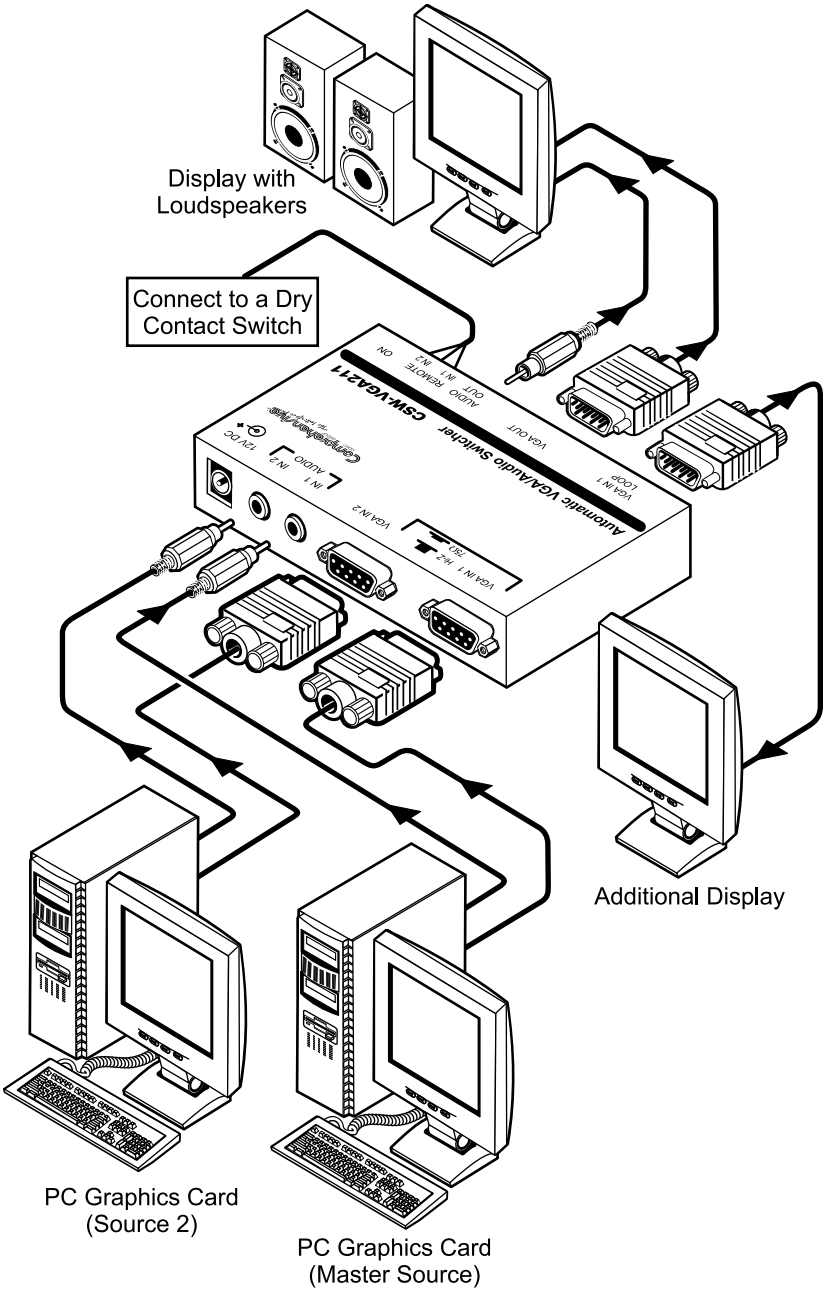


Figure 3: CSW-VGA211 Automatic VGA / Audio Switcher Connections

5.2 Selecting the Default VGA Master Source Signal

Both DEFAULT SELECT switches are factory preset to IN 1 and the **CSW-VGA211** will detect the presence of the master source signal at the VGA IN 1 connector. If you connect active sources to both the VGA IN 1 and the VGA IN 2 connectors, the source at the VGA IN 1 connector takes priority over the source at the VGA IN 2 connector and it is routed it to the VGA OUT and the AUDIO OUT connectors (audio follows the video).

You can change the default so that the **CSW-VGA211** automatically detects an active source signal from VGA IN 2, by setting the pair of DEFAULT SELECT switches[1] to IN 2. When active, the source at the VGA IN 2 connector takes priority over the source at the VGA IN 1 connector and it is routed to the VGA OUT and the AUDIO OUT connectors (audio follows the video).

If the **CSW-VGA211** detects:

- No signal[2] at the VGA IN 1 input (when IN 1 is selected as the default), the **CSW-VGA211** routes the signal from the source at VGA IN 2 to the VGA OUT and the AUDIO OUT connectors. Similarly, if the **CSW-VGA211** detects no signal at the VGA IN 2 input (when IN 2 is selected as the default), the **CSW-VGA211** routes the signal from the source at VGA IN 1 to the VGA OUT and the AUDIO OUT connectors
- A signal from the VGA source at VGA IN 1 input (when IN 1 is selected as the default), while routing the signal from the VGA source at VGA IN 2, the **CSW-VGA211** will reroute the signal from the VGA source at VGA IN 1 to the VGA OUT and the AUDIO OUT connectors. Similarly, if the **CSW-VGA211** detects a signal from the VGA source at VGA IN 2 input (when IN 2 is selected as the default), while routing the signal from the VGA source at VGA IN 1, the **CSW-VGA211** will reroute the signal from the VGA source at VGA IN 2 to the VGA OUT and the AUDIO OUT connectors
- No signal at all (that is, when there is no active input from a source at VGA IN 1 or at VGA IN 2), the **CSW-VGA211** will still route VGA IN 2 to the VGA OUT, and continue to examine VGA IN 1 input (when IN 1 is selected as the default), switching back to it when it detects a valid signal. Similarly, if the **CSW-VGA211** detects no signal at all (when IN 2 is selected as the default), it will still route VGA IN 1 to the VGA OUT, and continue to examine VGA IN 2 input, switching back to it when it detects a valid signal

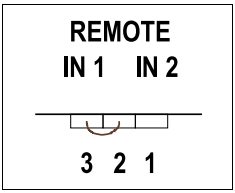
1 Both DEFAULT SELECT switches MUST be set to the identical IN #

2 Perhaps no source is connected, or that source is connected but its power is OFF

5.3 Connecting the REMOTE Connector

You can force the routing of one of the 2 inputs to the VGA output by remote control. To do so, connect the appropriate REMOTE input terminal block connector pins to a dry contact switch[1]. For example, as Figure 4 illustrates, to route *REMOTE IN 1* to the VGA output, connect PIN 3 to PIN 2. To route *REMOTE IN 2* to the VGA output, connect PIN 1 to PIN 2. Do not connect both the *REMOTE IN 1* and the *REMOTE IN 2* to PIN 2 simultaneously.

Route input 1 to the output, by attaching PIN 3 to PIN 2:



Route input 2 to the output, by attaching PIN 1 to PIN 2:

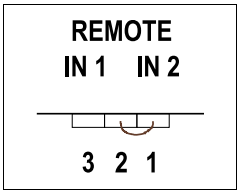


Figure 4: Remote Terminal Block Connector

When both VGA IN 1 and VGA IN 2 are connected, the signal from VGA IN 1 routes to the output. However, you can force the routing of VGA IN 2 to the output by attaching PIN 1 to PIN 2. If no input is present on VGA IN 1, you can even force the routing of the output from VGA IN 1 (displaying a blank screen) by attaching PIN 3 to PIN 2.

1 Note that the connection should be permanent, since the CSW-VGA211 will revert to an automatic switcher when the connection is removed

5.3.1 Connecting the REMOTE Connector when IN 2 is the DEFAULT

By default[1] the **CSW-VGA211** automatically detects an active source signal from VGA IN 1, and the order of the REMOTE input connectors is as printed:

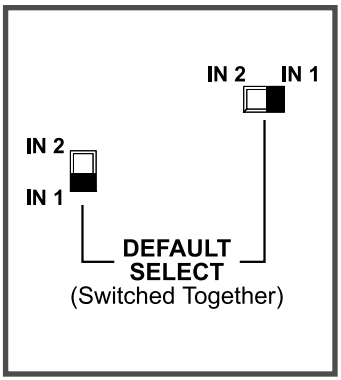


Figure 5: Connecting the REMOTE Connector when IN 1 is the DEFAULT

If you change the default[2] so that the **CSW-VGA211** automatically detects an active source signal from VGA IN 2, the order of the REMOTE input connectors automatically changes (IN 1 acts as IN 2, and IN 2 acts as IN 1):

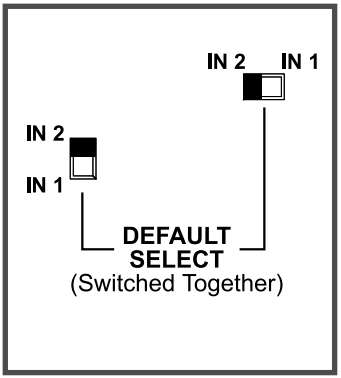


Figure 6: Connecting the REMOTE Connector when IN 2 is the DEFAULT

1 The pair of DEFAULT SELECT switches are set to IN 1

2 By setting the pair of DEFAULT SELECT switches to IN 2

6 Technical Specifications

Table 3 includes the technical specifications:

Table 3: CSW-VGA211 Automatic VGA / Audio Switcher Technical Specifications[1]

INPUTS:	2 VGA/UXGA on HD15F connectors 2 unbalanced stereo audio on 3.5 mm mini audio connectors
OUTPUTS:	1 VGA/UXGA on a HD15F connector 1 VGA/UXGA on a HD15F connector (input #1 loop) 2 unbalanced stereo audio on a 3.5 mm mini audio connector
MAX. OUTPUT LEVEL:	Video: 1.8 Vpp; Audio: 5Vpp
BANDWIDTH (-3dB):	Video: 400 MHz; Audio: 100 kHz
DIFF. GAIN:	0.04%
DIFF. PHASE:	0.03 deg
K-FACTOR:	<0.05%
S/N RATIO:	Video: 70.6 dB; Audio: 89 dB unweighted
CROSSTALK:	Video: -56 dB @ 5 MHz; Audio: -52 dB @ 1kHz
CONTROLS:	Input 1 termination switch, contact closure remote control, input 1 ID Bit switch (accessible from the underside or internally) Input default selection switches accessible from the underside
COUPLING:	DC
AUDIO THD + NOISE:	<0.019%
AUDIO 2nd HARMONIC:	<0.003%
POWER SOURCE:	12 VDC 50 mA
DIMENSIONS:	12 cm x 7.5 cm x 2.5 cm (4.7" x 2.95" x 0.98", W, D, H)
WEIGHT:	0.3 kg (0.66 lbs.) approx.
ACCESSORIES:	Power supply, mounting bracket

1 Specifications are subject to change without notice